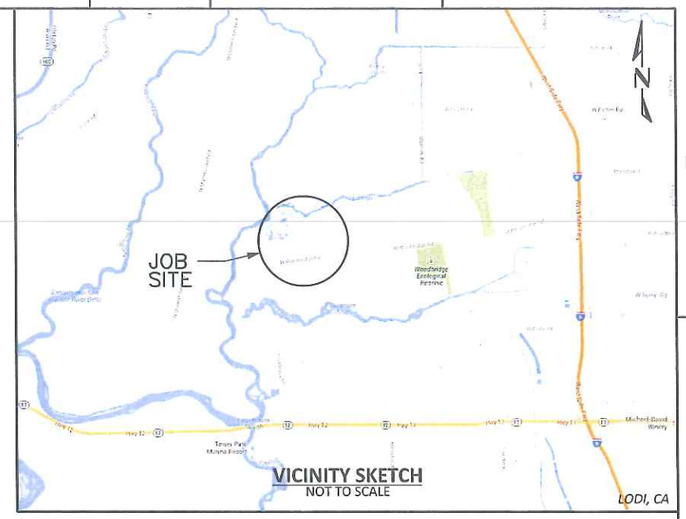
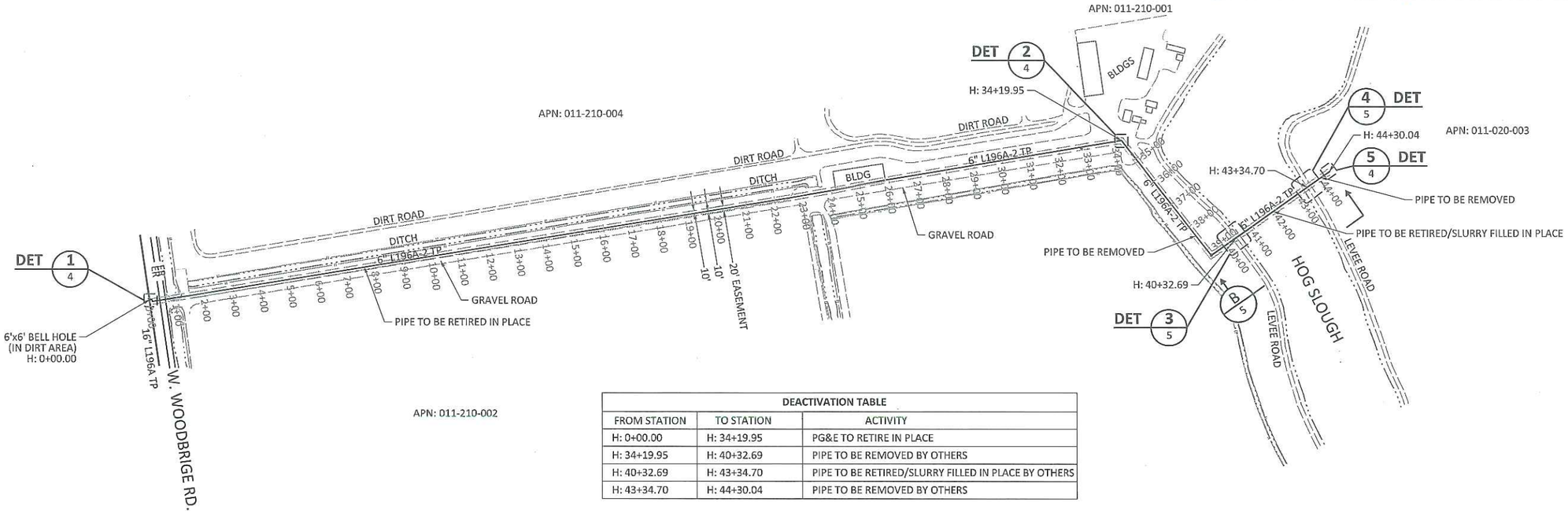
CP AREA # X-04
WALL MAP 2867
PLAT B1
SAN JOAQUIN COUNTY

LINE 196A-2, MP 0.87 - 1.73
RETIRE, 4,400', 6"
SAN JOAQUIN COUNTY





DEACTIVATION TABLE		
FROM STATION	TO STATION	ACTIVITY
H: 0+00.00	H: 34+19.95	PG&E TO RETIRE IN PLACE
H: 34+19.95	H: 40+32.69	PIPE TO BE REMOVED BY OTHERS
H: 40+32.69	H: 43+34.70	PIPE TO BE RETIRED/SLURRY FILLED IN PLACE BY OTHERS
H: 43+34.70	H: 44+30.04	PIPE TO BE REMOVED BY OTHERS

PLAN
SCALE: 1" =200'

SCHEDULE OF SHEETS

SHEET 1 -- TITLE/INDEX
SHEET 2 -- CONSTRUCTION NOTES
SHEET 3 -- CONSTRUCTION STAMPS/LEGEND
SHEET 4 -- CONSTRUCTION DETAILS
SHEET 5 -- CONSTRUCTION DETAILS
SHEET 6 -- BILL OF MATERIALS

SAFETY PLEDGE
I ALWAYS PUT SAFETY FIRST. I LOOK FOR AND ACT TO RESOLVE UNSAFE SITUATIONS. I HELP AND ENCOURAGE OTHERS TO ACT SAFELY.

GAS TRANSMISSION ESTIMATING & DESIGN

REGISTERED PROFESSIONAL ENGINEER OSCAR H. ROSALES M18299 EXP. MECHANICAL STATE OF CALIFORNIA

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ZERO IN ON SAFETY

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
0		ISSUED FOR 90% REVIEW	31042579	R4LH	RWD3	KSP4	

REVISIONS

APPROVED BY: PSRS 30961; SUPV KSP4; DSGN R4LH; DWN R4LH; CHKD E1W1; OK; DATE 9/2/14; SCALES AS SHOWN

PIPING - INDEX
L- 196 MP 0.87-1.73
RETIRE 4,400' OF 6" PIPE
West of I-5/Lodi, San Joaquin County

GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

BILL OF MATL SHEET 6
DWG LIST
SUPSDS
SUPSD BY
SHEET NO. 1 OF 6 SHEETS
31042579 0

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SUMMARY OF PROPOSED WORK:

1. PG&E TO RETIRE 3,300' OF L-196A-2 IN PLACE
2. PG&E TO REMOVE 59' OF L-196A-2
3. OTHERS TO RETIRE & SLURRY FILL 302' OF L-196A-2 UNDER HOG SLOUGH
4. OTHERS TO REMOVE 708' OF L-196A-2

SEQUENCE OF OPERATIONS

1. SHUT IN L-196A-2 USING V-1 AT T-5.14 AND 1" VALVE TEE PER APPROVED CLEARANCE
2. INSTALL SAV-A-VALVES AND BLOW DOWN L-196A-2
3. CUT/CAP ¾" SERVICE TEE'S & RETIRE L196A-2 FROM H:0+00.00 TO H:34+19.95
4. TEST L-196A-2 FOR CONTAMINANTS, CLEAN PER TD9500P-16 AND LAND AGREEMENT WITH LAND OWNER AS NECESSARY
5. CUT/CAP & REMOVE L-196A-2 FROM H:34+19.95 TO 40+32.69 (BY OTHERS)
6. CUT/CAP/SLURRY FILL & RETIRE L196A-2 IN PLACE FROM H:40+32.69 TO H:43+34.70 (BY OTHERS)
7. REMOVE L196A-2 FROM H:43+34.70 TO 44+30.04 (BY OTHERS)
8. RESTORE SITE TO ORIGINAL CONDITIONS

CONSTRUCTION NOTES:

GENERAL REQUIREMENTS:

1. UNDERGROUND SERVICE ALERT :
   CALL 811 (1-800-227-2600) A MINIMUM OF 2 BUSINESS DAYS (NOT INCLUDING INITIAL DAY OF CONTACT) IN ADVANCE FOR THE MARKING OF UNDERGROUND UTILITIES, INCLUDING ALL NON-UTILITIES BEFORE YOU DIG, GRADE, OR EXCAVATE.

2. UTILITY NOTES:
   A. EXISTING UTILITIES AS SHOWN ON THESE DRAWINGS ARE FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES THAT MAY BE IMPACTED BY THE PROJECT.
   B. THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES AND OTHER SUBSTRUCTURES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AND OTHER SUBSTRUCTURES AS IT IS NECESSARY TO AVOID DAMAGE.
   C. PROSPECTING IS REQUIRED AHEAD OF WORK. ALL OFFSETS OR ROPING WILL NEED TO BE APPROVED BY THE PG&E PROJECT ENGINEER, AND REDLINED DETAILS SHOWN ON PROFILE AND CONSTRUCTION DETAIL SHEETS OF EACH ADDITIONAL SUBSTRUCTURE.
   D. ALL EXCAVATIONS WITHIN EXISTING STATIONS SHALL BE HAND DUG OR EXCAVATED USING SOFT DIG METHODS (e.g. VACUUM EXCAVATIONS OR SIMILAR).

3. ELBOWS AND FIELD BENDS:
   A. ALL BENDS ARE SMOOTH FIELD BENDS, EXCEPT WHERE ELBOWS ARE SHOWN. FIELD BENDS SHALL BE MADE IN ACCORDANCE WITH A-36, SECTION 4D. FIELD BENDS MAY BE USED IN LIEU OF ELBOWS WHEN PREAPPROVED BY THE PG&E PROJECT ENGINEER.
   B. IN ORDER TO AVOID EXCESSIVE STRAIN ON THE PIPELINE, THERE SHALL BE A MINIMUM SEPARATION OF 5 FEET BETWEEN A ROPED SECTION OF PIPELINE AND ANY ELBOWS OR FIELD BENDS.
   C. ALL ANGLES SHOWN IN THE PLAN AND PROFILE ARE APPROXIMATE AND SHALL BE CUT TO SUIT FIELD CONDITIONS.

4. SEPARATION FROM OTHER STRUCTURES:
   A. CROSSING UNDERGROUND FACILITIES: PG&E PIPELINE MUST BE INSTALLED WITH AT LEAST 24 INCHES OF CLEARANCE FROM ANY OTHER SUBSTRUCTURE/UTILITY NOT ASSOCIATED WITH THE PIPELINE UNLESS NOTED ON THE DRAWINGS.
   B. PARALLELING UNDERGROUND FACILITIES: THIS PIPELINE MUST BE INSTALLED WITH AT LEAST 5 FEET OF CLEARANCE FROM ANY OTHER UNDERGROUND STRUCTURE/UTILITY NOT ASSOCIATED WITH THE PIPELINE UNLESS NOTED ON THE DRAWINGS.

5. RESTORATION AND CLEAN UP:
   A. RESTORATION OF PUBLIC STREETS, SIDEWALKS, CURBS, ETC. ABOVE PIPE BEDDING SHALL BE IN ACCORDANCE WITH THE LATEST CITY, COUNTY, OR AGENCY STANDARDS.
   B. WHERE EVER THERE ARE ROW CROPS, THE TOPSOIL SHALL BE REMOVED TO A DEPTH OF 12" AND STORED ON SITE. UPON COMPLETION OF CONSTRUCTION, THE TOPSOIL SHALL BE RESTORED. TAKE CARE TO PREVENT MIXING OF TOPSOIL AND SUBSOIL.

6. EXISTING GIRTH WELDS, AT TIE-IN LOCATIONS, SHALL BE IDENTIFIED AND REMOVED IF PRACTICAL.

7. WELDING REQUIREMENTS:
   A. ALL ARC WELDING IS TO BE PERFORMED IN ACCORDANCE WITH UTILITY PROCEDURE TD-4160P-20. ALL CANS OR SPOOLS SHALL BE A MINIMUM LENGTH OF ONE PIPE DIAMETER, WHENEVER POSSIBLE.
   B. INSTALL TEST STATIONS WITH THERMITE WELD CONNECTION IN ACCORDANCE WITH GAS T & D CORROSION CONTROL MANUAL O-10, O-10.1 AND O-10.2.

8. WELDING:
   WHEN INTERNAL MISALIGNMENT EXCEEDS 0.094", BACKWELD ANY GIRTH WELD WHERE THERE IS ACCESS TO THE INSIDE OF THE WELD. WHERE THERE IS NO ACCESS TO THE INSIDE OF THE WELD, MACHINE BORING OR GRINDING IS REQUIRED. BACKWELDING, GRINDING, OR BORING MUST BE DONE IN ACCORDANCE WITH THE APPROPRIATE UTILITY PROCEDURE IN THE GAS WELDING CONTROL MANUAL TD-4160M.

9. HYDROSTATIC TEST REQUIREMENTS
   A. HYDROSTATIC TESTING SHALL MEET PRESSURE AND DURATION REQUIREMENTS OF GAS STANDARD A-34 AND SHALL BE CONDUCTED IN ACCORDANCE WITH UTILITY PROCEDURE TD-4137S.
   B. ALL WELDS THAT HAVE NOT BEEN HYDRO TESTED AND ALL FITTINGS SHALL BE SOAP TESTED AT 100 PSI AND AT OPERATING PRESSURE BEFORE COATING CAN OCCUR.

10. PAINTING AND COATING REQUIREMENTS:
    A. ALL EXPOSED PIPE AND FITTINGS ARE TO BE PAINTED IN ACCORDANCE WITH GAS STANDARD E-30. ALL COATING ON BURIED PIPE AND FITTINGS ARE TO BE APPLIED IN ACCORDANCE WITH GAS STANDARD E-35.
    B. FOR COATING SELECTIONS ON BURIED PIPE, SEE DIRECT BURIAL COATING SELECTIONS TABLE.

11. DOCUMENTATION OF INSPECTION OF EXISTING PIPELINE:
    WHENEVER EXISTING BURIED GAS FACILITIES ARE EXCAVATED DURING ENGINEERING OR DURING CONSTRUCTION, AN A-FORM (TD-4110P-03-F01) SHALL BE COMPLETED FOR THE GENERAL INSPECTION. THIS ALSO APPLIES TO GAS FACILITIES BEING DEACTIVATED. THE COMPLETED A-FORM SHALL BE SUBMITTED WITH THE AS-BUILT PACKAGE.

12. TIE-IN AND CLEARANCE PROCEDURE TO BE PREPARED AND PERFORMED IN ACCORDANCE WITH THE FOLLOWING WORK PROCEDURES:
    A. WP 4100-01, HOT AND COLD WORK METHODS FOR NATURAL GAS TRANSMISSION PIPELINE SHUTDOWN AND TIE-IN.
    B. WP 4100-10, GAS CLEARANCE PROCEDURES FOR FACILITIES OPERATING OVER 60 PSIG.

13. COATING REMOVAL:
    A. BEFORE REMOVING THE PIPE COATING ON PRE-1972 PIPE (DOES NOT INCLUDE PLASTIC TAPE OR FUSION BONDED EPOXY COATINGS) THE FOLLOWING STEPS SHALL BE TAKEN:
    B. FOR ALL NON-EMERGENCY WORK, PRE-1972 PIPE WRAP MUST BE EVALUATED TO DETERMINE IF IT CONTAINS ASBESTOS PRIOR TO REMOVAL AND DISPOSAL. TEST RESULTS SHALL BE INCLUDED IN THE REDLINE PACKAGE.
    C. FOR EMERGENCY WORK ON PRE-1972 PIPE, ASSUME THE WRAP CONTAINS > 1% ASBESTOS UNTIL THE WRAP CAN BE TESTED.
    D. OBTAIN SAMPLES OF THE WRAP, AND HAVE SAMPLES TESTED FOR ASBESTOS IN ACCORDANCE WITH WP 4711S.
    E. TEST RESULTS ARE TO BE INCLUDED WITH AS-BUILTS.
    F. FOLLOW PROCEDURE IN WP 4711-01 FOR REMOVAL OF PIPE WRAP.

CATHODIC PROTECTION NOTES:

1. THE PERSON FILLING OUT THE A-FORM (TD-4110P-03-F01) IS RESPONSIBLE FOR BOTH THE INTERNAL CORROSION AND EXTERNAL CORROSION INSPECTION OF THE PIPELINE.

2. UPON COMPLETION OF BORINGS, CONTACT THE CORROSION SUPERVISOR FOR THE LOCAL AREA/DIVISION TO PERFORM CURRENT DRAIN TESTS ON THE PIPELINE SEGMENT THAT WAS INSTALLED IN THE BORE. THE CURRENT DRAIN TEST MUST BE PERFORMED PRIOR TO WELDING PIPE ON EITHER SIDE OF THE BORE.

3. FOR THE INSTALLATION OF THE OMNIMETRIX RECTIFIER REMOTE MONITOR, CONTACT THE CORROSION SUPERVISOR FOR THE LOCAL AREA/DIVISION.

DEACTIVATION PROCEDURE FOR EXISTING PIPE:

1. UTILITY WORK PROCEDURE TD 9500P-16 SHALL BE FOLLOWED.

2. THE EXISTING PIPELINE SHALL BE 100% PURGED WITH NITROGEN AS PER STANDARD A-38.

3. AT INTERVALS SPECIFIED IN TD 9500P-16, THE EXISTING MAIN WILL BE CUT AND PLATED. SEE DEACTIVATION SHEET.

4. AT EACH SUCH LOCATION, A PIECE OF PIPE AT LEAST 24" LONG SHALL BE REMOVED. THE OPEN ENDS OF DEACTIVATED MAIN SHALL BE SEALED BY THE MOST APPROPRIATE METHOD OUTLINED IN UTILITY WORK PROCEDURE TD 9500P-16. BACKFILL MUST BE THOROUGHLY COMPACTED IN PLACE OF THE REMOVED SECTION OF PIPE.

5. SERVICE CONNECTIONS TO BE DEACTIVATED, AS INDICATED ON THE DRAWINGS, SHALL BE CUT AND PLATED OR CAPPED.

6. VALVES AND CURB VALVES MAY BE REMOVED AND SALVAGED IF THE COST OF REMOVAL IS JUSTIFIED. THE OPEN ENDS OF PIPE SHALL BE SEALED AS NOTED ABOVE.

JOB SPECIFIC NOTES

1.ALL FIELD CHANGES REQUIRE APPROVAL BY PROJECT ENGINEER (SEE CONTACT INFORMATION).
2.INSTALL A 1" SAV-A-VALVE (H17491) TO CHECK DREG4478 FOR PRODUCT AND PRESSURE PER GAS CLEARANCE PROCEDURE TD-4100P-10 PRIOR TO WORK

CONTACT INFORMATION:

PROJECT MANAGER	----	LUKE ROY	510-289-8760
PROJECT ENGINEER (PED)	----	ED WASSMUTH	713-459-0545
PIPELINE ENGINEER (PLE)	----	KIM LEONARD	916-662-5422
ESTIMATOR / DESIGNER	----	ROBERT LAMBERT	916-386-5275
FIELD ENGINEER/CM	----	JUSTIN PHELAN	925-588-3745
LAND PLANNER	----	NICK STARKEY	559-908-6545
ENVIRONMENTAL	----	NATHAN CHRISTMAN	559-410-5011
T&R SUPERVISOR	----	DAVID ESCOBAR	209-595-4508
LEVEE DIST REP	----	GILBERT CASIO	916-761-1282

REFERENCE DRAWINGS:

OPERATING MAPS	----	382899
AS BUILT	----	PM 30604399
AS BUILT	----	GM 1951144

GAS TRANSMISSION ESTIMATING & DESIGN

REGISTERED PROFESSIONAL ENGINEER OSCAR H. ROSALES M18299 EXP. MECHANICAL STATE OF CALIFORNIA

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REVISIONS

APPROVED BY	
PSRS	30961
SUPV	KSP4
DSGN	R4LH
DWN	R4LH
CHKD	E1W1
OK	
DATE	9/2/14
SCALES	AS SHOWN

PIPING - NOTES
L- 196 MP 0.87-1.73
RETIRE 4,400' OF 6" PIPE
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GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

BILL OF MATL	SHEET 6
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	2 OF 6 SHEETS

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DIRECT BURIAL COATING SELECTIONS LISTED IN ORDER OF PREFERENCE	
MAIN LINE COATING	FBE
MINOR REPAIRS	3M SCOTCHKOTE 323, PROTAL 7200, FBE
TIE-IN WELDS	3M SCOTCHKOTE 323, PROTAL 7200, FBE
GIRTH WELDS	3M SCOTCHKOTE 323, PROTAL 7200, FBE
BUTT WELDED FITTINGS	3M SCOTCHKOTE 323, PROTAL 7200, FBE
VALVE ASSEMBLIES	3M SCOTCHKOTE 323, PROTAL 7200, DEVGRIP 238
SHORT SEGMENTS OF PIPE	3M SCOTCHKOTE 323, PROTAL 7200, FBE
AIR-TO-SOIL TRANSITIONS	DEVGRIP 238, POWERCRETE J
PRESSURE CONTROL FITTINGS	BODY: PROTAL 7200 FLANGE: WAX TAPE
TIE-INS/COATING TRANSITIONS	PROTAL 7200, WAX TAPE, POLYKEN TAPE
BORED COATING SELECTIONS LISTED IN ORDER OF PREFERENCE	
MAIN LINE COATING	ARC APPLIED OVER FBE
MINOR REPAIRS	PROTAL 7200, POWERCRETE J, 3M SCOTCHKOTE 323
TIE-IN WELDS	ARC OVER FBE, PROTAL 7200, POWERCRETE J

NOTES:
1) CONTACT THE RESPONSIBLE PIPELINE ENGINEER TO REQUEST A VARIANCE FROM THE ABOVE COATING SELECTIONS.
2) ALL COATINGS ARE TO BE APPLIED IN ACCORDANCE WITH GS&S E-30 AND E-35.

INTERNAL CORROSION (IC) DESIGN & CONSTRUCTION REVIEW		
IC THREAT (PER RMP-16)	YES	NO
IC REVIEW ACTION	INITIAL	DATE

CORROSION ENGINEERING HAS REVIEWED THIS DESIGN AND INCORPORATED ANY NECESSARY IC DESIGN AND CONSTRUCTION CONSIDERATIONS. DOCUMENTATION OF THE REVIEW AND ACTIONS TAKEN ARE IN THE JOB PACKAGE AND INCORPORATED IN THIS DESIGN.

INSTALLATION TESTED OR INSPECTED AND NOTED ON DRAWING. ALL LEVELS SATISFACTORY PER PG&E GS&S 0-16.

QUALIFIED EMPLOYEE DATE

CORROSION MECHANIC'S SIGNATURE IS REQUIRED WHEN A CPA BOUNDARY IS WITHIN THE SCOPE OF THE PROJECT.

LEGEND:

- PROPOSED GAS TRANSMISSION LINE
- EXISTING GAS TRANSMISSION LINE
- GAS TRANSMISSION LINE (TO BE RETIRED)
- GAS TRANSMISSION LINE (TO BE REMOVED)
- GD — GAS DISTRIBUTION LINE
- GS — GAS SERVICE LINE
- GT — GAS TRANSMISSION LINE (RETIRED)
- GD — GAS DISTRIBUTION LINE (RETIRED)
- GS — GAS SERVICE LINE (RETIRED)
- ET — ELECTRIC TRANSMISSION LINE
- ED — ELECTRIC DISTRIBUTION LINE
- ES — ELECTRIC SERVICE LINE
- T — TELEPHONE LINE
- TV — CABLE TV LINE
- SD — STORM DRAIN LINE
- SS — SEWER LINE
- W — WATER LINE
- ER — EDGE OF ROAD
- FC — FACE OF CURB
- FENCE
- WALL
- GAS LINE MARKER (ALL)
- GAS LINE MARKER (PADDLE DUAL)
- GAS LINE MARKER (PADDLE SINGLE)
- GAS LINE MARKER (POST)
- GAS LINE INDICATOR (DISC)
- PIPE END CUT (SIDE)
- PIPE END CUT
- CABLE TV BOX
- CENTERLINE
- ANODE
- DEEPWELL ANODE
- COMPUTER AUTOMATED TEST STATION (CATS)
- COUPON TEST STATION (CTS)
- ELECTROLYSIS TEST STATION (ETS)
- POLE-MOUNTED RECTIFIER (R)
- GAS VALVE
- WATER METER (W)
- WATER VALVE
- EXISTING ELECTRIC TOWER
- GAS BOX (G)
- GAS HIGH PRESSURE REGULATOR (HPR)
- GAS METER (M)
- GAS DISTRIBUTION REGULATOR (DR)
- PG&E GAS MANHOLE (G)
- GAS VAULT (G)
- GAS VENT (V)
- FLOW ARROW (FLOW)
- PG&E ELECTRIC MANHOLE (E)
- ELECTRIC VAULT (E)
- UTILITY POLE (ELECTRIC)
- UTILITY POLE (OTHER)
- JOINT POLE
- SURVEY CONTROL POINT
- STORM DRAIN (SD)
- TELECOMM BOX (T)
- TELECOMM MANHOLE (T)
- TELECOMM VAULT (T)
- TIE-IN WELD
- TREE
- STREET LIGHT BOX
- SEWER MANHOLE
- CITY/COUNTY MONUMENT
- MONUMENT, SEE DESCRIPTION
- FOREIGN MANHOLE
- INSULATION JOINT
- PROPOSED POTHOLE LOCATION
- PRESSURE CONTROL FITTING
- DRILL RIG FOOTPRINT WORKSPACE
- TEMPORARY WORKSPACE
- PERMANENT EASEMENT
- PROPOSED STAGING AREA
- PROPOSED CONSTRUCTION AREA
- PROPOSED TIE-IN HOLE
- PROPOSED SNIFF HOLE
- ENVIRONMENTAL IMPACT AREA

Acronym	Definition	Acronym	Definition	Acronym	Definition	Acronym	Definition
(E)	Existing	DP	Design Pressure	LN	Linear Weldable	SD	Storm Drain
(P)	Proposed	DPV	Damage Prevention Volume	LNW	Linear Non-Weldable	SHT	Sheet
API	American Petroleum Institute	DR	Distribution Regulator	LONG	Longitude	SL	Sewer Lateral
APN	Assessor's Parcel Number	DREG	District Regulator	M	Monitor	SMLS	Seamless
ARC	Abrasion Resistant Coating	DSAW	Double Submerged Arc-Welded	MAOP	Maximum Allowable Operating Pressure	SMYS	Specified Minimum Yield Strength
ASME	American Society of Mechanical Engineers	DWA	Deep Well Anode	MAX	Maximum	SPEC	Specification
ASTM	American Society for Testing Materials	ELE	Electric	MH	Manhole	SS	Sanitary Sewer
ATM	Atmosphere	ELEV	Elevation	MIN	Minimum	SSAW	Single Submerged Arc-Welded
B	Bare Steel	EM	Electronic Marker	MLV	Main Line Valve	STA	Station
BBCL	Bell Bell Chill Ring	EMS	Engineering Material Specification	MOP	Maximum Operating Pressure	STD	Standard
BC	Back of Curb	ER	Edge of Road	MP	Mile Point	STL	Steel
BD	Blowdown	ERW	Electric Resistance Welded	MW	Working Monitor	STPR	Strength Test Pressure Report
BLDG	Building	ETS	Electrolysis Test Station	NDE	Non-Destructive Examination	T	Tied
BOM	Bill of Materials	F	Filter	NOP	Normal Operating Pressure	TD	Technical Document
BTU	British Thermal Units	FBE	Fusion Bonded Epoxy	NPC	Non-Protected/Native Coupon	TT	Top Tap
BW	Back of Walk	FC	Face of Curb	NTS	Not to Scale	TCE	Temporary Construction Easement
BYP	Bypass	FDP	Future Design Pressure	OC	On Center	TCP	Traffic Control Plan
CATS	Computer Automated Test Station	FL	Fence Line	OD	Outside Pipe Diameter	TDW	T. D. Williamson
CCV	Corrosion Control Volume	FLG	Flange	OH	Overhead	TSP	Transmission System Planning
CI	Cast Iron	G	Natural Gas	P	Pipeline	TYP	Typical
CL	Centerline	GM	Natural Gas Main	P/L	Property Line	UG	Underground
CNG	Compressed Natural Gas	GR	Grade	PC	Protected/Polarized Coupon	UON	Unless Otherwise Noted
CONTR	Contractor	GS	Natural Gas Service	PCF	Pressure Control Fitting	USA	Underground Service Alert
CP	Cathodic Protection	GS&S	Gas Standards and Specifications	PL	Plastic	UT	Ultra-Sonic Test
CROP	Conditional Reduction of Pressure	GW	Natural Gas Well	PLC	Programmable Logic Controllers	V	Valve
CTR	Center	H	Horizontal	PSI	Pounds per Square Inch	VIF	Verify in Field
CTS	Coupon Test Station	HDD	Horizontal Directional Drill	RAD	Radius	VOL	Volume
CU	Copper	HFW	High Frequency Weld	RE	Reference	W	Water
DE	Dead End	HPR	High Pressure Regulator	REG	Regulator	WT	Wall Thickness
DCUST	Distribution Customer	ILI	In-Line Inspection	ROW	Right of Way	W/	With
DEG	Degree	JT	Joint Trench	S	Screwed	W/O	Without
DET	Detail	L	Line Number	SAWH	Submerged Arc-Welded Helical	WOW	Without Locating Wire
DF	Design Factor	L/R	Left/Right	SAWL	Submerged Arc-Welded Longitudinal	WP	Work Procedure
DFM	Distribution Feeder Main	LAT	Latitude	SCADA	Supervisory Control and Data Acquisition	WS	Water Service
DIST	Distribution	LNG	Liquid Natural Gas				

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SAN FRANCISCO, CALIFORNIA

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SUPSD BY	
SHEET NO.	3 OF 6 SHEETS
31042579	0

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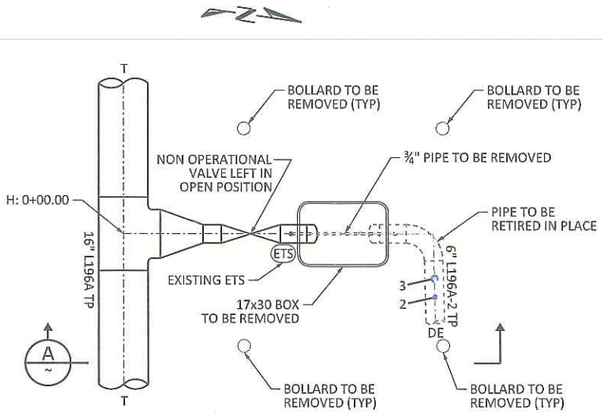

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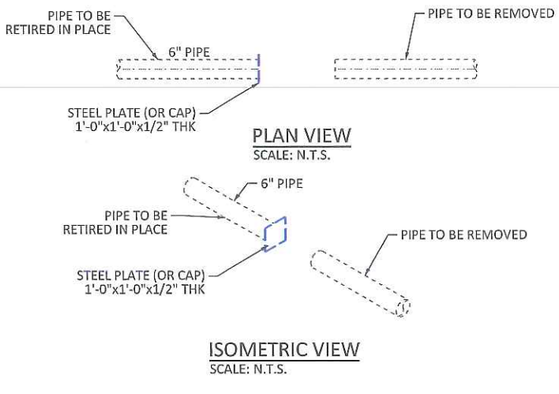
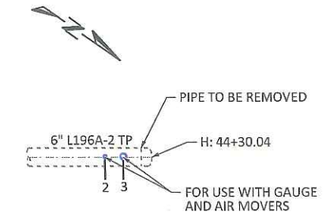


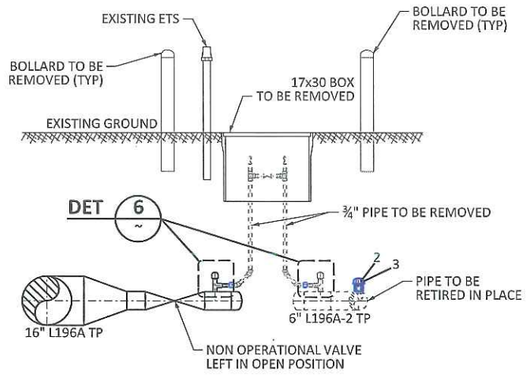
DETAIL 2 SCALE: N.T.S. DEACTIVATION DETAIL



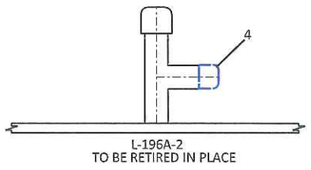
DETAIL 5 SCALE: N.T.S.

DEACTIVATION PROCEDURE FOR EXISTING PIPE:

1. GT&D UTILITY WORK PROCEDURE T9500P-16 SHALL BE FOLLOWED.
2. THE EXISTING 6" GAS MAIN SHALL BE 100% PURGED WITH INERT GAS AS PER STANDARD A-38.
3. AT THE INTERVALS OF A MAXIMUM OF APPROXIMATELY 4000 FT., THE 6" MAIN SHALL BE CUT AND PLATED(OR CAP).
4. AT EACH SUCH LOCATION NOTED ABOVE, A PIECE OF PIPE AT LEAST 24" LONG SHALL BE REMOVED. THE OPEN ENDS OF DEACTIVATED MAIN SHALL BE SEALED BY THE MOST APPROPRIATE METHOD OUTLINED IN GT&D UTILITY WORK PROCEDURE T9500P-16. BACKFILL MUST BE THOROUGHLY COMPACTED IN PLACE OF THE REMOVED SECTION OF PIPE.
5. SERVICE CONNECTIONS TO BE DEACTIVATED AS INDICATED ON THE DRAWINGS SHALL BE CUT AND PLATED.
6. VALVES AND CURB COCKS MAY BE REMOVED AND SALVAGED IF THE COST OF REMOVAL IS JUSTIFIED. THE OPEN ENDS OF PIPE SHALL BE SEALED AS NOTED ABOVE.



SECTION A SCALE: ½"=1'



DETAIL 6 SCALE: N.T.S. SERVICE TEE

EXIST PIPE SPECS
HEADER SIZE: 6.625"WALL THICKNESS: 0.156"
API-FL, X42, ERW
PRESENT MAOP: 800 PSIG
% SMYS @ MAOP: 40.45%
INSTALL JN: 4737284 YEAR: 89
MAXIMUM ALLOWABLE PRESSURE DURING WELDING (G.S.&S. D-22)
EVALUATE THE FOLLOWING OPERATING PRESSURE LIMITATIONS TO DETERMINE THE MAXIMUM OPERATING PRESSURE PERMITTED DURING WELDING
A) (566 PSIG) WHEN WELDING ON BODY OF THE PIPE. UNLESS,
B) (395 PSIG) WHEN WELDING WITHIN 3" OF THE LONGITUDINAL SEAM (EXCEPT DSAW PIPE),THE CIRCUMFERENTIAL, AND ANY BRANCH WELD, OR WITHIN 3" OF ANY DEFECT (GOUGES, CORROSION, LAMINATIONS, ETC.) IN THE PIPE WHICH EXCEEDS 1/3 OF THE NOMINAL WALL THICKNESS IN DEPTH AND/OR 1/4 OF THE NOMINAL PIPE DIAMETER IN LENGTH.

EXIST PIPE SPECS
HEADER SIZE: 6.625"WALL THICKNESS: 0.280"
API-FL, GR-B, SMLS
PRESENT MAOP: 800 PSIG
% SMYS @ MAOP: 27.04%
INSTALL JN: 4737284 YEAR: 89
MAXIMUM ALLOWABLE PRESSURE DURING WELDING (G.S.&S. D-22)
EVALUATE THE FOLLOWING OPERATING PRESSURE LIMITATIONS TO DETERMINE THE MAXIMUM OPERATING PRESSURE PERMITTED DURING WELDING
A) (800 PSIG) WHEN WELDING ON BODY OF THE PIPE. UNLESS,
B) (591 PSIG) WHEN WELDING WITHIN 3" OF THE LONGITUDINAL SEAM (EXCEPT DSAW PIPE),THE CIRCUMFERENTIAL, AND ANY BRANCH WELD, OR WITHIN 3" OF ANY DEFECT (GOUGES, CORROSION, LAMINATIONS, ETC.) IN THE PIPE WHICH EXCEEDS 1/3 OF THE NOMINAL WALL THICKNESS IN DEPTH AND/OR 1/4 OF THE NOMINAL PIPE DIAMETER IN LENGTH.

GAS TRANSMISSION ESTIMATING & DESIGN

REGISTERED PROFESSIONAL ENGINEER OSCAR H. ROSALES M18299 EXP. MECHANICAL STATE OF CALIFORNIA

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ZERO IN ON SAFETY

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
0		ISSUED FOR 90% REVIEW	31042579	R4LH	RWD3	KSP4	

REVISIONS

APPROVED BY	PSRS 30961
	SUPV KSP4
	DSGN R4LH
	DWN R4LH
	CHKD E1W1
	OK
	DATE 9/2/14
	SCALES AS SHOWN

PIPING - DETAILS
L- 196 MP 0.87-1.73
RETIRE 4,400' OF 6" PIPE
West of I-5/Lodi, San Joaquin County

GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

BILL OF MATL	SHEET 6
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	4 OF 6 SHEETS

31042579 | 0

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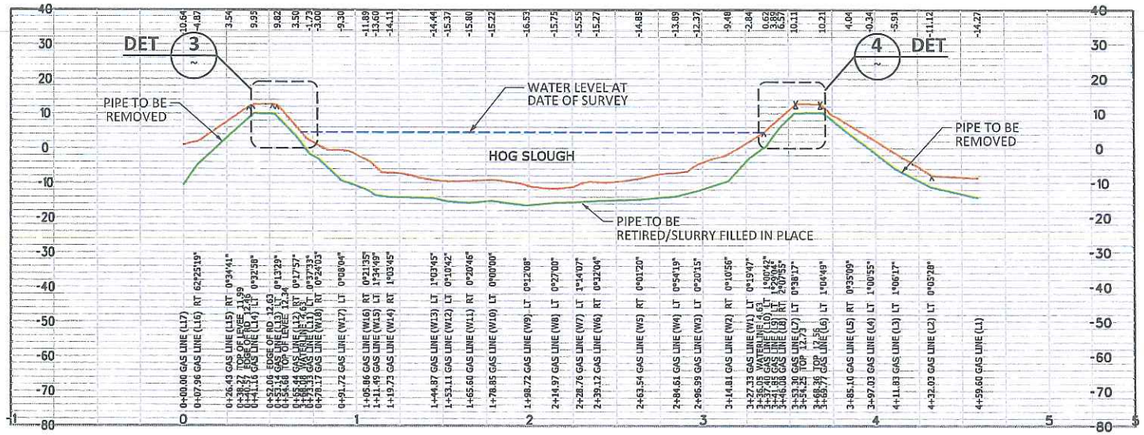
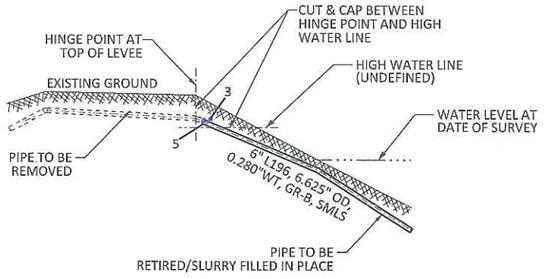
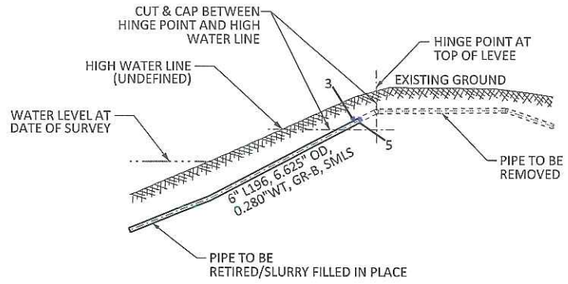


SECTION B
SCALE: 1" = 40' HOR
1"=20' VERT



DETAIL 3
SCALE: ⅛"=1'



DETAIL 4
SCALE: ⅛"=1'

EXIST PIPE SPECS
HEADER SIZE: 6.625"WALL THICKNESS: 0.156"
API-FL, X42, ERW
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% SMYS @ MAOP: 40.45%
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EXIST PIPE SPECS
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NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
0		ISSUED FOR 90% REVIEW	31042579	R4LH	RWD3	KSP4	

REVISIONS

APPROVED BY	
PSRS	30961
SUPV	KSP4
DSGN	R4LH
DWN	R4LH
CHKD	E1W1
OK	
DATE	9/2/14
SCALES	AS SHOWN

PIPING - DETAILS
L- 196 MP 0.87-1.73
RETIRE 4,400' OF 6" PIPE
West of I-5/Lodi, San Joaquin County

GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

GAS TRANSMISSION ESTIMATING & DESIGN

REGISTERED PROFESSIONAL ENGINEER OSCAR H. ROSALES M18299 EXP. MECHANICAL STATE OF CALIFORNIA

BILL OF MATL	SHEET 6
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	5 OF 6 SHEETS

31042579 | 0

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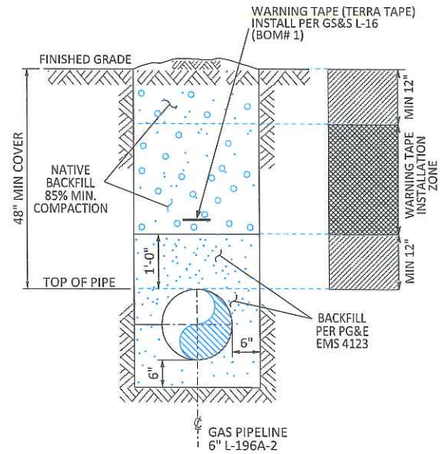
02-SEP-2014 08:47AM

PG&E CODE	ITEM NO.	QNTY.	ORDER NO. 31042579 DESCRIPTION	CATALOG OR REFERENCE	OTHER DATA
M379947	1	1	TAPE WARNING PIPELINE GAS UNDERGROUND REEF INDUSTRIES # 42-0084 YELLOW WITH BLACK WRITING STATING "CAUTION GAS LINE BURIED BELOW" 8-MIL THICKNESS 6" WIDE X 1,000 FT USE IN DIRECT BURY APPLICATION OF DISTRIBUTION AND TRANSMISSION PIPELINES FOR DAMAGE PREVENTION	GS&S L-16	
M022287	2	2	NIPPLE SAVE-A-VALVE 1" WELD STEEL MUELLER # H-17491 3" LONG COMPLETE WITH STEEL CAP	GS&S C-14	
M022289	3	4	NIPPLE SAVE-A-VALVE 2" WELD STEEL MUELLER # H-17491 3" LONG COMPLETE WITH A STEEL CAP	GS&S C-14	
M022218	4	2	CAP METAL PIPE 3/4" SOCKET WELD FORGED STEEL VOGT # SW-4200 OR EQUAL 3000# ASTM A-234	GS&S B-21	
M022038	5	5	CAP METAL PIPE 6" WELD BUTT WELD WROUGHT CARBON STEEL GRADE WPB WALL THICKNESS 0.280"	GS&S B-20	



TYPICAL TRENCH NON-PAVED AREA
SCALE: NO SCALE NATIVE BACKFILL

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PSRS	30961
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GAS TRANSMISSION
ESTIMATING & DESIGN

REGISTERED PROFESSIONAL ENGINEER
OSCAR H. ROSALES
M18299
EXP.
MECHANICAL
STATE OF CALIFORNIA

BILL OF MATL	SHEET 6
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	6 OF 6 SHEETS

31042579 | 0

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02-SEP-2014 08:47AM
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